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## The Information Society: The Information Society and Policy

### Information Society and Policy

#### Objectives

There are very few other times in history when our society has been so impacted by a series of technological innovations. And as evidenced by emerging technologies, we have only seen the beginning of this information revolution. To deal with the challenge of our growing information society and globalization, information policies must be developed, which address such hot issues as privacy, intellectual property rights, and censorship. After Reading this section, you should be able to:

- Define the concepts of information technology and information systems according to its purpose, scope, and architecture.
- Explain and give examples of information technologies.
- Identify various types of information systems.
- Identify the characteristics of our information society and globalization.
- Define and describe aspects of information policy.

#### Information Technology and Information Systems

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We are surrounded by information technology! But what is Information Technology? Information technology is defined as any technology, including the computer hardware, software, and telecommunications networks that enable the transmission, processing, storage, organization,

and retrieval of information for the purpose of understanding, decision making, and action taking. Other types of technology include:

**Communications technologies** that enable humans to communicate and transmit information, e.g., telephones and televisions

**Transportation technologies** such as trains, planes, cars, or space craft.

These technologies may include information technologies. Information systems is defined as the combination of information technology, people, data resources, and other tools and techniques that collect, transform, and disseminate information within an organization. Early information systems did not utilize computers. An example is the library card catalog, still used in some school and community libraries. The hardware includes cabinets and index cards, the software and procedures involve cataloging schema (Dewey-Decimal System), the data is the bibliographic information on library holdings, the people are the librarians and the library patrons.

The most central part of the definition of an information system is that it should "work together to produce meaningful information for individuals and organizations." This statement contains 3 important ideas:

Information systems work together - Early information systems could exist in isolated social contexts. There was no need for exchange of information between systems. Therefore, their design was entirely independent. Today there is an increasing need for connectivity and information exchange between information systems to improve their effectiveness and efficiency.

Information systems produce meaningful information- An information system must add value to the data it contains by supporting individual or organizational decision making.

Information systems exist for people - Information systems were not developed because engineers thought they would be cool. They were developed to support human decision making. Therefore, the success of any information system is defined by its users.

Information systems may be categorized according to their purpose, their scope, or their architecture. They are often distinguished by their users and the information they produce.

**Exercise:**

**Problem:**

Go out to Digg.com and discover today's hot tech news. Write a review of the top five stories on your personal blog.

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**Solution:**

Insert Solution Text Here

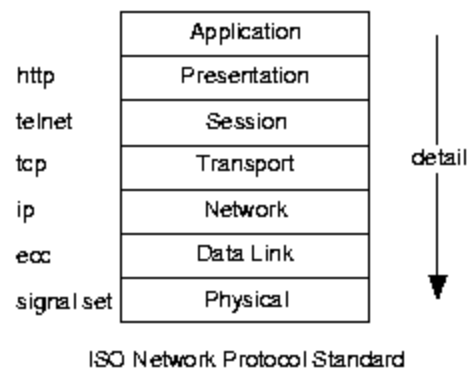
## Communication Protocols

The layers of protocol in computer networks.

The complexity of information transmission in a computer network—reliable transmission of bits across a channel, routing, and directing information to the correct destination within the destination computers operating system—demands an overarching concept of how to organize information delivery. No unique set of rules satisfies the various constraints communication channels and network organization place on information transmission. For example, random access issues in Ethernet are not present in wide-area networks such as the Internet. A **protocol** is a set of rules that governs how information is delivered. For example, to use the telephone network, the protocol is to pick up the phone, listen for a dial tone, dial a number having a specific number of digits, wait for the phone to ring, and say hello. In radio, the station uses amplitude or frequency modulation with a specific carrier frequency and transmission bandwidth, and you know to turn on the radio and tune in the station. In technical terms, no one protocol or set of protocols can be used for any communication situation. Be that as it may, communication engineers have found that a common thread runs through the **organization** of the various protocols. This grand design of information transmission organization runs through all modern networks today.

What has been defined as a networking standard is a layered, hierarchical protocol organization. As shown in [\[link\]](#), protocols are organized by function and level of detail.

### Protocol Picture



Protocols are organized

according to the level of detail required for information transmission. Protocols at the lower levels (shown toward the bottom) concern reliable bit transmission. Higher level protocols concern how bits are organized to represent information, what kind of information is defined by bit sequences, what software needs the information, and how the information is to be interpreted. Bodies such as the IEEE (Institute for Electronics and Electrical Engineers) and the ISO (International Standards Organization) define standards such as this.

Despite being a standard, it does not constrain protocol implementation so much that innovation and competitive individuality are ruled out.

Segregation of information transmission, manipulation, and interpretation into these categories directly affects how communication systems are organized, and what role(s) software systems fulfill. Although not thought about in this way in earlier times, this organizational structure governs the way communication engineers think about all communication systems, from radio to the Internet.

**Exercise:**

**Problem:**

How do the various aspects of establishing and maintaining a telephone conversation fit into this layered protocol organization?

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**Solution:**

When you pick up the telephone, you initiate a dialog with your network interface by dialing the number. The network looks up where the destination corresponding to that number is located, and routes the call accordingly. The route remains fixed as long as the call persists. What you say amounts to high-level protocol while establishing the connection and maintaining it corresponds to low-level protocol.

We now explicitly state whether we are working in the physical layer (signal set design, for example), the data link layer (source and channel coding), or any other layer. IP abbreviates Internet protocol, and governs gateways (how information is transmitted between networks having different internal organizations). TCP (transmission control protocol) governs how packets are transmitted through a wide-area network such as the Internet. Telnet is a protocol that concerns how a person at one computer logs on to another computer across a network. A moderately high level protocol such as telnet, is not concerned with what data links (wireline or wireless) might have been used by the network or how packets are routed. Rather, it establishes connections between computers and directs each byte (presumed to represent a typed character) to the appropriate operation system component at each end. It is **not** concerned with what the characters mean or what programs the person is typing to. That aspect of information transmission is left to protocols at higher layers.

Recently, an important set of protocols created the World Wide Web. These protocols exist independently of the Internet. The Internet insures that messages are transmitted efficiently and intact; the Internet is not concerned (to date) with what messages contain. HTTP (hypertext transfer protocol) frame what messages contain and what should be done with the data. The extremely rapid development of the Web on top of an essentially stagnant Internet is but one example of the power of organizing how information transmission occurs without overly constraining the details.

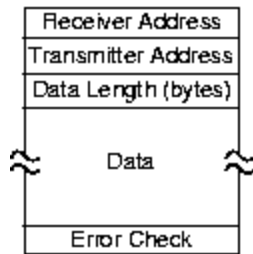


## Message Routing

The key to the efficiency of a network is good message routing.

Focusing on electrical networks, most analog ones make inefficient use of communication links because truly dynamic routing is difficult, if not impossible, to obtain. In radio networks, such as commercial television, each station has a dedicated portion of the electromagnetic spectrum, and this spectrum cannot be shared with other stations or used in any other than the regulated way. The telephone network is more dynamic, but once it establishes a call the path through the network is fixed. The users of that path control its use, and may not make efficient use of it (long pauses while one person thinks, for example). Telephone network customers would be quite upset if the telephone company momentarily disconnected the path so that someone else could use it. This kind of connection through a network—fixed for the duration of the communication session—is known as a **circuit-switched** connection.

During the 1960s, it was becoming clear that not only was digital communication technically superior, but also that the wide variety of communication modes—computer login, file transfer, and electronic mail—needed a different approach than point-to-point. The notion of computer networks was born then, and what was then called the ARPANET, now called the Internet, was born. Computer networks elaborate the basic network model by subdividing messages into smaller chunks called **packets** ([\[link\]](#)). The rationale for the network enforcing smaller transmissions was that large file transfers would consume network resources all along the route, and, because of the long transmission time, a communication failure might require retransmission of the entire file. By creating packets, each of which has its own address and is routed independently of others, the network can better manage congestion. The analogy is that the postal service, rather than sending a long letter in the envelope you provide, opens the envelope, places each page in a separate envelope, and using the address on your envelope, addresses each page's envelope accordingly, and mails them separately. The network does need to make sure packet sequence (page numbering) is maintained, and the network exit point must reassemble the original message accordingly.



Long messages, such as files, are broken into separate packets, then transmitted over computer networks. A packet, like a letter, contains the destination address, the return address (transmitter address), and the data. The data includes the message part and a

sequence  
number  
identifying  
its order in  
the  
transmitted  
message.

Communications networks are now categorized according to whether they use packets or not. A system like the telephone network is said to be **circuit switched**: The network establishes a **fixed** route that lasts the entire duration of the message. Circuit switching has the advantage that once the route is determined, the users can use the capacity provided them however they like. Its main disadvantage is that the users may not use their capacity efficiently, clogging network links and nodes along the way. **Packet-switched** networks continuously monitor network utilization, and route messages accordingly. Thus, messages can, on the average, be delivered efficiently, but the network cannot guarantee a specific amount of capacity to the users.

## Evolution of a Department as a Community of Learners



**Note:** This module has been peer-reviewed, accepted, and sanctioned by the National Council of the Professors of Educational Administration (NCPEA) as a scholarly contribution to the knowledge base in educational administration.

### Introductory Comments

The 2002/2003 Seton Hall University (SHU) ELMP (Education Leadership, Management, and Policy) Department objectives included faculty interest in developing a “learning community” or Community of Learners (COL) framework for ELMP that, among other things, would expand the idea of “scholarship” and advance a research and scholarship culture. Because one major goal of higher education should be scholarship and research to advance knowledge, the ELMP department developed a framework and concept paper. Secondly, such a plan should be useful to meet NCATE Standard 5. The working paper was reviewed by ELMP faculty (4/04) at the ELMP 8/04 Annual Retreat, revised and incorporated into the ELMP Strategic Plan with objectives, processes (etc.) and activated in early 2005. This chapter explains the evolution of ideas for ELMP discussion on the learning community idea, including a rationale.

To get started, the planners enlisted assistance from a SHU EdD student, Charles Lyons, Jr. who was interested in a parallel idea for dissertation research and who suggested that we draw on his on-going library review of the “Professional Learning Community” or PLC idea [Lyons, 2003, August 18: “Professional Learning Community (PLC): A Developmental Model”]. The ELMP working document also drew heavily from Boyer (1990) *Scholarship Reconsidered* to expand traditional ideas of “scholarship” and

blend them with elements of PLC (a generic term found in the literature). A PLC generally embodies concepts of a “learning-centered community or of a Community of Learners” or COL. The designation “COL” was selected as a starting point for ELMP pilot and developmental efforts.

### Into the Abyss: Attempting to Make Sense of the COL

The ideas of “research culture,” “culture of scholarly inquiry,” Professional Learning Community (PLC) and COL may each have slightly nuanced meanings, but as a starting point, consider that ELMP’s COL effort is the concept conveyed by the collectivity of the terms, with emphasis on research and scholarship. The COL has special importance in education, particularly in institutions of higher education (IHEs), relative to the traditional and evolving mission of IHEs. The following is from Boyer’s (1990) discussion of higher education, its history, purpose, and scholarship.

In 1869 the image of the scholar as teacher was evoked by Charles W. Eliot who...declared that “the prime business of American professors...must be regular and assiduous class teaching” (p.4).

To the idea of teaching, the Morrill Act (1862) and Hatch Act (1887) advanced the task of service as a mission for IHEs. Once again, according to Boyer, Eliot of Harvard spoke: “At bottom most of the American institutions of higher education are filled with the modern democratic spirit of serviceableness. Teachers and students alike are profoundly moved by the desire to serve the democratic community” (Boyer, p.5).

Boyer made the case for the university’s role in basic research both inside and outside the halls and walls of academe (pp. 6-13). The reciprocal ideas of basic and action research were “energized” by the faculty and student “determined efforts to apply knowledge to practical problems” (p.7).

[R]esearch and graduate education increasingly formed the model for the modern university. Academics...were moving inevitably from faith in authority to reliance on scientific rationality...this view of scholarship called for a new kind of university, one based on the conviction that knowledge was most attainable through research and experimentation (p. 9).

The dichotomy here is apparent: ... “while young faculty were hired as teachers, they were evaluated primarily as researchers (Boyer, p. 11. *Emphasis in original*). Publish or perish. Yet, the mission of service and the idea of research as “ivory tower,” along with the move from “elite” to “mass” in the IHE mission (note the impact of the GI Bill of Rights) left things incomplete. Research generated on campus and taught to students needed to be applied and used properly. Inquiry required application to social improvement. Thus, from Boyer (2002, p. 16) “...the work of the professoriate might be thought of as having four separate, yet overlapping, functions. They are the scholarship of discovery; the scholarship of integration; the scholarship of application; and the scholarship of teaching.” (*Emphasis in original*). Education administration (EdAd) requires all four types of scholarship!

The ideas that Boyer (1990) expressed formed a basis for considerable similar discussion (e.g., Achilles, 1994) of issues related to EdAd’s knowledge base: To the degree that EdAd is a profession, not just a discipline, the tasks of EdAd professors and of the education field must include “Discovery” (research) and such things as “Integration” and “Application” (use, service), as well as “Teaching.” The basic logic for this position, which supports all four of Boyer’s “Scholarships,” appears in Achilles (1994, pp. 166-168) and also provides a rationale for the COL to include practitioners as well as professorial colleagues and present students. A fairly long quote, patched with minor editing from Achilles (1994, p. 167) encompasses the Boyer (1990) and COL ideas.

Interestingly, practitioners explain that they get their useful information while at work—that is, while they are on the job and not in university classrooms. “It is difficult to ignore the testimony of school administrators that their training programs are far from adequate in preparing them to resolve the problems they face: (Pitner, 1988, p. 368). “Fewer than 2 percent of elementary school principals credit their success as school administrators to their graduate course work” (Pitner, p. 376). Pitner noted that among practitioner complaints of preparation programs is that “programs do not provide the opportunity for applying theoretical knowledge to actual situations (p. 378). Indeed, by 1988 there had been developed the Handbook of Research in Education Administration (Boyan,

1988), but there still was no corresponding Handbook of Practice in Education Administration, suggesting a valuing—at least by those who write in the field—of writing about theory and research rather than about practice. Perhaps professors of EdAd felt absolved by Pitner's [other] finding: "The denigration of professional training by practitioners is by no means confined to the field of school administration" (p. 378).<sup>1</sup> Note that by 2006 there still is no Handbook of Practice in Education Administration. Maybe soon?

Most would agree that a knowledge base (KB) included content that those in a field consider part of and important to that field. C. Wright Mills once noted that at a minimum, to be a discipline a field must have a body of knowledge (content). A common language is important. To the extent, then, that EdAd has a discipline element, or that EdAd is its own "field," EdAd's method of inquiry is also part of the KB. Since education (and in particular EdAd) is not just a discipline...but is concerned with a beneficial application (the "Why?" question) of the "What?" and the "How?" of a discipline to solving human problems, then as a profession (EdAd) is in a position to extend the discipline's content. At a minimum, a profession's knowledge base adds to content and method of inquiry two elements: context and delivery. Content, by itself, may be of interest to the academician or researcher, but may be of little espoused value to a practitioner. (Emphasis in original).

Because a professional needs to know What to do (knowledge derived mostly from quantitative research), How to get the "what" done (knowledge derived from mixed-methods research, combining qualitative and quantitative methods) and Why, (or why not) do something (knowledge primarily from qualitative research), research in a profession needs to be "Qualiquantitative" (Q<sup>2</sup>) to be thorough and useful to the field. But even Q<sup>2</sup> research will need explanation, demonstration, and dissemination (Teaching/Service) to be understood and correctly applied. This need is ample explanation for involving "the field" as part of the COL, thus incorporating all types of Boyer's scholarship to accomplish the path from discovery to use in education improvement. Ideas here, although now connected to Boyer's ideas, were derived from Whitehead's (1929) insights. (Achilles, 1994, p. 167 Paraphrased).

Alfred North Whitehead (1929) developed several important conclusions about knowledge and the place of the university in knowledge development and transmission. Note that this work (1929) was long before the important recent work in cognitive psychology...Through philosophy and deduction Whitehead (1929) arrived at a conclusion that seems verified later by work in psychology and by induction.

In the history of education, the most striking phenomenon is that schools of learning...exhibit merely pedantry and routine. The reason is that they are overladden with inert ideas. Education with inert ideas is not only useless, it is, above all things, harmful...(p. 13).

To Whitehead, “Education is the acquisition of the art of the utilization of knowledge” (p. 16, emphasis added). Without knowledge about using knowledge, knowledge is not much use, or as Whitehead says, “Knowledge does not keep any better than fish” (p. 102). If EdAd is an applied field, it seems that Whitehead speaks directly to EdAd preparation issues.

If the “stuff” of EdAd preparation programs in IHEs is not particularly useful to those who would practice EdAd in schools, we might begin with the notion that EdAd preparation programs are, like many other traditional, university-based programs, composed mostly of inert ideas, and of ideas provided absent of application (e.g. context) by people who don’t practice or even demonstrate what they preach. Practitioners call these “ivory tower” ideas pronouncements by “eggheads”...

The ELMP concept of the COL at SHU blends and initiates many ideas expressed by others from different places and times, using logic, deduction, and expository language to bridge those ideas with the work of professors and practitioners. The needs to report to accrediting bodies and to address NCATE Standard 5 give the COL idea “legs” through its instrumental value to fulfill a task many professors find irritating—keeping records for reports.

### The Task At Hand

Given this preamble and general ELMP agreement, faculty consideration of its COL embraces all four categories of Boyer’s (1990) Scholarship Reconsidered. The ideas of a research culture/COL include (internally)



faculty, students, administrators and involve (externally) clients or consumers of the enterprise who also have reciprocal roles. A COL includes the idea of community as expressed in Psychological Sense of Community (PSOC). Bateman (2002) provided a structure for both the idea of community and its attendant culture as intended in a “culture of scholarly inquiry” or COL that the ELMP Department seeks. (For Bateman’s extended definition and discussion of PSOC and references for PSOC, see Glossary of Terms. Appendix A).

The work to this point has identified and included some key terms, trends, and ideas around concepts that, for sake of brevity, are combined into a “Community of Learners” or COL. The COL embraces ideas and meanings inherent in various, similar terms [culture of scholarly inquiry, research culture, PLC, high-performance learning community (Louis, 2003), collaboration (Grumet, 1989), etc.]: COL in no way restricts the concepts under consideration; it simply is a shorthand designation for the ELMP plan at Seton Hall University (SHU).

### An Emerging Framework (Lyons, 2003) and Beyond

The strengths of ELMP’s COL rest on Boyer’s (1990) four types of scholarship, each equally valued; upon relationships as expressed in PSOC; upon the organization and structures in the specific context of ELMP (including ELMP itself); and upon the individual and collective abilities, distinctions, inclinations, talents (etc.) of COL members. Lyons’ (2003) Appendix A provides a theoretical framework for elements that rest upon Boyer’s four types of scholarship that are the professional action base, as well as the knowledge base for the COL

In Carnegie Foundation work, Shulman (2003) discussed not only the teaching’s role in developing professionals, but also the ideas of PSOC, and forming a specific identity (a way of acting, talking, etc.). In Shulman’s (2003, p. 3) words:

One emerging theme in this work is that learning to be a professional isn’t a purely intellectual endeavor. To become a professional, one must learn not only to think in certain ways but also to perform particular skills, and to practice or act in ways consistent with the norms, values, and conventions

of the profession. Thus, to learn to be a lawyer, one needs to think like a lawyer, perform like a lawyer, and act like a lawyer.

Acting is more than knowing something or performing well; it seems to involve the development of a set of values, commitments, or internalized dispositions. It reminds me of what theological educators talk about as formation—the development of an identity that integrates one’s capacities and dispositions to create a more generalized orientation to practice. Moreover, professionals cannot, in principle, learn all that they will need while they remain in school. Professional education must have at its core the concept of ongoing individual and collective learning, because the experiences of engaging, understanding, and acting must become the basis for subsequent learning and development (p. 3. Emphasis in original).

A community requires actors or players (“All the world is a stage...”). For the evolving COL at SHU, the principal “*dramatis personae*” are those broadly designated as ELMP faculty, students, former students and practitioners associated with SHU through the Study Council and Service efforts.

Next, to be operational, the COL needs a core of consensually validated actions valued by the players or ELMP role incumbents. The actions (things for the actors to do) could be conceptually within frameworks such as Boyer’s four scholarships. Thus, resources (broadly defined) will need to be specified [contributions, incentives, desired acquisitions (funds, knowledge, etc.)] to support the COL. Standards for distribution of the resources and tasks to achieve COL goals will be discussed and determined, along with priorities related to ELMP goal for seeking resources and recognition (Transparency).

Specifics of points provided here will continue to be categorized (“taxonomized,” in Shulman’s words): The operations, distributions, resources, effort, rewards, time, responsibilities, (etc) will be allocated to support the types of topics included in the (working) COL “theoretic framework.” These tasks become agenda items for ELMP meetings, action lines for the Strategic Plan and foci for data collection and evaluation (e.g., NCATE Standard 5).

Change and improvement in IHEs are often popularized by expressions like “moving a graveyard,” “herding cats,” or orchestrating prima donas. Recognizing that individual faculty interests and talents are driving forces for faculty research, teaching and other forms of scholarship, ELMP members sought at least one instrumental value for the COL so the COL would not just be another task or “add on.” The College of Education was involved in State, regional, and NCATE accreditation efforts. The COL seemed a reasonable way to (a) demonstrate compliance with and growth on NCATE Standard 5, (b) meet College and SHU reporting needs, and (c) substantiate progress in outreach (Service, as defined by Boyer’s Scholarships of Integration and Application).

Although they are topics of separate papers, two structures were developed within ELMP to provide COL direction and to organize the diverse activities required by four types of scholarship. An Institute for Education, Leadership, Research and Renewal (IELRR) and the New Jersey Superintendents School Study Council provide a base for research, service, projects, grants, student recruitment and placement, and are the “Big Umbrella” to accommodate the external actors in the SHU/College/ELMP COL configuration.

#### One Example: NCATE Standard 5 and COL Intersection

Elements in the COL relate directly to NCATE Standard 5: Faculty Qualifications, Performance, and Development. Selected ELMP annual outcomes of COL efforts are compiled into a report on progress made for each year. The entries designate the cooperative, collaborative, or collegial efforts and specify the “actors” in the events, as well as the outcomes.

Because COL “actors” will be acting on common pursuits, faculty compile examples of “community” efforts at different levels (e.g., ELMP, College, local, regional, national, international) within each of Boyer’s (1990) types of scholarship [Discovery (research), Integration, Application (service), and Teaching]. The COL efforts include “actors” such as faculty/faculty; faculty/student; faculty/colleague (often a former student). The “community” events can be internal (ELMP) or external as delivered through the IELRR and school study council.

Steps to be Done in sessions of the ELMP annual two-day retreat:

- Define remaining terms in Glossary to assure a degree of precision and specificity in COL discussions.
- Provide examples of COL efforts, such as faculty symposia/round tables, assistance in seeking funding, developing applications, and meaningful projects for sabbaticals, cooperative publishing and presentation opportunities, collaborative/team teaching (with critique),...
- Seek “Transparency” as necessary to ensure smooth ELMP operations and equitable resource distributions for scholarly pursuits.
- Establish and refine the reporting process and format to track growth and outcomes of COL efforts. They will be especially useful for the Dean’s Annual Report to the University and for NCATE Standard 5.
- To be determined. A work in progress.

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## Appendix A. Glossary of Terms

The literature review, COL theoretic base, and discussions in ELMP contain various terms that require some degree of common meaning and use in the process of evolving a COL (“research culture” or “culture of scholarly inquiry” or PLC). For example, Grumet (1989) emphasized collaboration and community as a PLC bases. Although emphasizing high schools, Louis (2003) described a High Performance Learning Community (HPLC) and the organization and processes involved in creating one. Their ideas seem to apply also to the IHE context. Some terms needing common definition in the COL – seeking effort are:

**Collaboration:** The honest sharing of ideas, work, and outcomes that help 2 or more people grow and improve. To the degree possible, each person contributes and takes in relation to ability and need.

**Collegial/Collegiality:** A sense or climate of cooperative, collaborative sharing that embodies a sense of pleasure in achieving common goals or purposes.

**Community (see also PSOC):** A group with common goals or ideals whose members cooperate, collaborate and are collegial in dealings of importance to the group.

**Culture:** In the anthropological sense, the elements, artifacts, stories, history/herstory, myths, etc. are the “tangibles” of the group’s work and accomplishments (e.g., successes with grants, publications, etc).

**Inquiry (see also Research):** Any reasonably structured intellectual pursuit, questioning, or seeking. Inquiry need not be as formal and structured as research, but it may be.

**Psychological Sense of Community (PSOC).** According to Bateman (2002, p. 64), “Seymour Sarson (1974) coined the term [PSOC] to describe the

fundamental psychological need all humans have for being part of a community. He defined PSOC as:

The perception of similarity to others, as acknowledged interdependence with others, a willingness to maintain this interdependence by giving to or doing for others with one expects from them, and the feeling that one is part of a larger dependable and stable structure (p. 157) [Sarason, S.B. (1974). *The PSOC: Prospects for a Community Psychology*. San Francisco: Jossey Bass.]

Bateman (2002, p. 65) discussed the concept of PSOC with elements that seem to relate clearly to the overall sense of a “community of scholarly inquiry” or COL where inquiry and scholarship seem to be within the purview of Boyer’s (1990) *Scholarship Reconsidered* and of Shulman’s (2003) *Making Differences*.

Sarason suggests that all humans are aware of the presence or absence of the PSOC. We luxuriate in its presence and despair in its absence. The PSOC can be thought of as comprising “I-sense” and “We-Sense” dimensions (Newbrough and Chavis, 1986). Newbrough and Chavis argue that the I-Sense differentiates one from the collective group, while the We-sense considers one as a member of a collective group. These two senses are reciprocal: each requires the other, and together they comprise the sense of community. This unique approach differentiates PSOC from social support and provides a construct that takes into account the dynamic interdependence of individual and environment. [Newbrough, J. R. and Chavis, D. M. (1986) PSOC, I: Forward. *J. of Community Psychology*, 14, 3-5]

A set of conditions has to be in place before individuals can feel a PSOC. McMillan and Chavis (1986), building on Sarason’s definition of PSOC and existing research and theory on group dynamics, generated a theoretical model of PSOC that has four elements. These elements are:

1. Membership – a feeling of belonging and acceptance, of sharing a sense of personal relatedness. Personal investment and boundaries are important elements of membership.

2. Influence – a sense of mattering, or making a difference to a group, and of the group mattering to its members. Influence is bidirectional.

3. Integration and fulfillment of needs – a feeling that the community will meet the needs of the individual and that the individual can meet the needs of the community.

4. Shared emotional connection – an emotional bond that gradually builds as members of a community share events that require investment of time, energy, and effort and a shared faith that members' needs will be met through the commitment to be together.

[McMillan, D. W. and Chavis, D. M. (1986). Sense of Community: A definition and theory. *Journal of Community Psychology*. 14, 6-23.

Research (See Inquiry): A structured, formal inquire effort using validated quantitative, qualitative, or “mixed” designs and processes to produce robust, replicable, believable (valid) outcomes worthy of using in advancing and improving education or other common group goals. The Scholarship of Discovery.

Scholarship/Scholarly: Achieving excellence in one or more of the four areas of scholarship as defined by Boyer: Discovery (Research), Integration, Application, (Service) and Teaching. See Boyer (1990) for details.

Service: Extending work of individual faculty into application of IHE outcomes to improve education and to assist others, often pro bono, within and external to the IHE.

Transparency: Actions are taken openly and the various rewards/resources and celebrations are open and shared within parameters agreed upon by the group.



# Trademarks in Cyberspace

## Introduction

Trademarks are things which businesses use to identify their products to consumers. Traditionally this involves things such as logos, key sounds, symbols and words. Trademark law protects these marks against situations where consumer confusion may arise (misappropriation), or where the economic value of a mark is diluted (dilution).

Recently, however, trademarks have become a topic of specific attention in the context of today's online environment. Areas such as internet domain names, hyperlinks and keyword searches have forced us to rethink what trademark is and how it should be enforced. We discuss these topics and present some of the relevant law.

## Domain Names and Cybersquatting

Internet domain name registration has become an area of much attention because of the commercial demand for domain names in order to establish presence on the Internet. The current system for registering domains on the Internet does not involve trademark review, mainly because of efficiency and liability reasons. It would be too much of a burden on registrars to look up trademarks for every single registration, and in the case of a mistake it could cost large amounts.

Domain name registrars also face the challenge of rejecting certain domain names due to policy reasons. For example, a registrar would reject domains with blatantly offensive meanings. The U.S. federal court has supported this action, saying that First Amendment rights are applicable only to actions by governments, and domain name registrars are not acting under the color of government authority. Relevant court cases are [National A-1 Advertising, et al. vs. Network Solutions, Inc.](#) and *Island Online Corp. v. Network Solution. Inc.*

People also try to protect the domain names themselves as trademarks. But registration of a domain name does not necessarily establish the existence

of trademark protection. According to [Brookfield v. West Cost](#), not only do you need to register the domain name, but also need to use it for commercial use in order to establish trademark rights. Furthermore, if the business wishes to establish its trademark over the entire domain name, it must treat it as a traditional form of trademark and go through the entire process as it would with a logo, sound etc.

Trademark law also prevents unwanted use domain names by other parties who do not own the trademark. As expected, large corporations have moved aggressively to claim trademark infringement and dilution to prevent other parties from using identical or very similar domain names. We see this activity in [Hasbro, Inc. v. Clue Computing, Inc.](#) and [Porsche Cars North America v. Porsch.com](#). The U.S. Patent and Trademark Office has ruled, however, that nondistinctive elements of the domain names such as http are not under trademark law protection (*Image Online Design v. Core Associates*).

A particularly interesting and well publicized court case is [Etoys v. Etoy.com](#), where the company Etoys was trying to prevent a group of artists, Etoy, from owning the domain Etoy.com. Complications arose, however, since Etoy owned the Etoy.com domain name 2 years before the lawsuit. It turned out that Etoys backed down and allowed the use of Etoy.com on Etoy's terms.

Another major topic of discussion is 'cybersquatting' which occurs when an outside party registers another's trademark in its own domain name. Many cases have arisen from cybersquatting, and they have been treated as traditional misappropriation cases by the courts. Nowadays, The Internet Corporation for Assigned Names and Numbers ([ICANN](#)), has stepped in and prohibited cybersquatting along with federal law through the [Anticybersquatting Consumer Protection Act of 1999](#). ICANN is a nonprofit organization dedicated to regulating these specific types of trademark issues, and although it has no official jurisdiction like a court, it has had a large influence on trademark law. ICANN has built a system of rules which are enforced through the [Uniform Dispute Resolution Procedures \(UDRP\)](#).

But situations do arise where two separate owners may have legitimate claims to the same trademark. This is actually quite common and is in line with trademark law, as long as customers do not get confused. A common example is companies working in separate industries, as they can use similar trademarks for completely separate things (a 'leaf' on a computer monitor and a the same 'leaf' on construction equipment). But now with the internet, both companies may want to claim the same domain name. What do we do now?

Originally the domain name registration system has worked on a 'first come first serve' basis. But this has caused some undesired consequences, as now companies feel the need to register everything similar to their trademark, in effect registering domain names in defense. ICANN has created additional top-level domains (TLDs) in order to address the problem, so that now `www.computer.com` and `www.computer.info` can have two separate owners. But again, companies just registered along every single top domain, as the first come first served basis was still employed. Other ideas have also been tried such as country TLDs (.uk, .tw), but there still has been no truly effective solution. **How should this problem be addressed in order to balance both trademark rights and rights to free enterprise?**

## **Hypertext Links**

Another area where disputes can arise is in hyperlinks between web pages. What should Coca Cola do if I get a link labeled "Coca Cola" on some shopping website, but it actually links to my page, which sells drinks but not Coca Cola? Unfortunately, one can easily see how difficult it is to regulate hypertext links on the internet, since there is a virtually unlimited of hypertext links floating around. But there could be specific situations where the plaintiff shows that there is trademark infringement and the plaintiff thinks the economic compensation would be worthwhile. But as for now this is a problem without any practical solution.

## **Keywords and Search Engines**

Online search engines have also brought up issues having to do with trademarks. For example, one may have a website that sells electronics, but

then to attract more attention from a search engine, it may say "Sony" 50,000 times at the bottom of its website so that it comes up higher for search engine results. In fact, an automated ranking system may even select this site above Sony's real website simply because it seems like there is such a strong relationship with this website and 'Sony'.

The courts have said that when the metatags being abused are trademarks by other parties, this can be considered misappropriation. We see this in *Playboy Enterprises v. Calvin Designer Label*. There is an added likelihood that liability will result when the opposing sides are in direct competition, as seen in *Insituform Technologies v. National Envirotech Group*.

Another situation that has arisen comes from how the search engines themselves do business. Search engines often sell advertising rights to common search terms, so that advertisers can target their advertisements better. But then what happens if the purchased terms are trademarks of other companies? This has also been brought up trademark claims successfully, as it can fairly easily be seen as trademark infringement.

Source: Matsuura, Jeffrey H. *Managing Intellectual Assets in the Digital Age*. Norwood, MA : Artech House 2003

Rest of the project:

- [Trademark: Its history, influence and issues](#)
- [International Issues in Trademark](#)
- [Trademarks in Cyberspace](#)
- [Legal Structure of US Trademark Protection](#)